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| APPLICATION NO.                                                           | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
|---------------------------------------------------------------------------|-------------|----------------------|-----------------------------|------------------|
| 10/005,177                                                                | 12/07/2001  | Tommy Lindblad       | 19378.0018                  | 6910             |
| 23517                                                                     | 7590        | 06/15/2005           | EXAMINER<br>WANG, QUAN ZHEN |                  |
| SWIDLER BERLIN LLP<br>3000 K STREET, NW<br>BOX IP<br>WASHINGTON, DC 20007 |             |                      | ART UNIT<br>2633            |                  |

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/005,177

Applicant(s)

LINDBLAD, TOMMY

Examiner

Quan-Zhen Wang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, and 6-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 101***

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 7-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 7-16 are directed to neither a "process" nor a "machine", but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-4, and 6-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, recited the limitation "... modules **may be** plugged into ...". However, the term "may be" is a relative term which renders the claim indefinite.

Claim 1, recited the limitation "... in a quick-connect manner". However, the term "a quick-connect manner" is a relative term which renders the claim indefinite. The

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term "a quick-connect manner" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably appraised of the scope of the invention.

Claims 7-16 claims both apparatus and method steps of using the apparatus. A single claim claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-4, 6-7, and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. (U.S. Patent US RE37,401 E) in view of Karstensen et al. (U.S. Patent US 5,923,451).

Regarding claim 1, as it is understood in view of the above 112 problem, Yamashita teaches an interface device (fig. 7) for a fiberoptic communication network (figs. 8A-C), the interface device comprising: an electric circuit arrangement (fig. 7, the dot-dashed square), a first receiving (fig. 7, element 1) section for receiving a first transceiver module including a first receiver unit for receiving optical signals from an optical conduction path, the first receiver unit comprising a first opto-electrical converter (fig. 7, O/E 11) for converting the received optimal signals to electrical signals, which

are adapted to be conducted to said electric circuit arrangement, and a first transmitter unit (fig. 7, element 3) for transmitting optical signals to an optical conduction path, the first transmitter unit comprising a first electro-optical converter (fig. 7, E/O 33) for converting electrical signals, received from said electric circuit arrangement, to optical signals before they are transmitted from the transmitter unit, a second receiving section (fig. 7, element 4) for receiving a second transceiver module including a second receiver unit for receiving optical signals from an optical conduction path, the second receiver unit comprising a second opto-electrical converter (fig. 7, O/E 41) for converting the received optical signals to electrical signals, which are adapted to be conducted to said electric circuit arrangement, and a second transmitter unit (fig. 7, element 2) for transmitting optical signals to an optical conduction path, the second transmitter unit comprising a second electro-optical converter (fig. 7, E/O 23) for converting electrical signals, received from said electric circuit arrangement, to optical signals before they are transmitted from the transmitter unit, a switching unit (fig. 7, drop/insert/pass process 7) for switching said electric circuit arrangement between at least a first and a second state, wherein, in the first state the electrical signals from the first receiver unit are conducted to said first transmitter unit and in said second state the electrical signals from said second receiver unit are conducted to said first transmitter unit, and a controller (fig. 7, drop/insert/pass process 7) arranged to automatically control the switching unit in response to at least one control signal such that said first state is selected when said at least one control signal indicates that no optical signal above a certain signal level is received by a transceiver module attached to said second

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receiving section (fig. 8C; and column 2, lines 50-65). The system of Yamashita differs from the claimed invention in that Yamashita does not specifically teach that the first and second receiving sections are designed such that said first and second transceiver modules may be plugged into the receiving sections and unplugged therefrom in a quick-connect manner. However, it is well known in the art to design such that said first and second transceiver modules are able to be plugged into the receiving sections and unplugged therefrom easily. For example, Karstensen teaches to integrate an optical transmitter/receiver (Tx/Rx) with electronics on a plug-in (fig. 1, element 1) so that the TX/RX can be easily brought into communications with other components by plugging-in to the housing of the node (column 4, lines 66-67 and column 5, lines 1-6). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to design the transceiver module, as it is taught by Karstensen, for the system of Yamashita in order that the first and second transceiver modules are able to be plugged into the receiving sections and unplugged therefrom in a quick-connect manner.

Regarding claim 3, as it is understood in view of the above 112 problem, Yamashita further teaches that each of the nodes has an input fault detecting unit for detecting an input fault (column 2, lines 55-65), which reads the control signal indicating no optical signal above a certain signal level is received by a transceiver module attached to the second receiving section.

Regarding claim 4, as it is understood in view of the above 112 problem, Yamashita further teaches that the controller (fig. 7, element 7) of an interface unit is

arranged to receive a second control signal from a network management system (supervision node; column 2, 37-47).

Regarding claim 6, as it is understood in view of the above 112 problem, the interface device (fig. 7) inherently comprising a circuit board carrying the electric circuit arrangement, the first receiving section, second receiving section, the switching unit and controller.

Regarding claim 7, as it is understood in view of the above 101 and 112 problems, Yamashita further teaches a interface device (fig. 7) in an optical fiber communication network (figs. 8A-C) including at least a first network unit (fig. 8A; node A) arranged for bi-directional optical communication and a second network unit (fig. 8A, node B) arranged for bi-directional optical communication, according to the method: the first transceiver module is attached to the first receiving section and the first receiver unit and the first transmitter unit are connected via a bi-directional optical communication path to the first network unit (inherent), the second transceiver module is attached to said second receiving section and the second receiver unit and the second transmitter unit are connected via a bi-directional optical communication path to the second network unit (inherent), and the switching unit (fig. 7, element 7) is set in the second state (fig. 8A; column 8, lines 13-41).

Regarding claim 11, as it is understood in view of the above 101 and 112 problems, Yamashita further teaches that the interface device together with the attached first and second transceiver modules perform the function of a repeater mode (fig. 8A, nodes A-D).

Regarding claim 12, as it is understood in view of the above 101 and 112 problems, Yamashita further teaches a interface device (fig. 7) in an optical fiber communication network (figs. 8A-C) including at least a first network unit (fig. 8A node A) arranged for bi-directional optical communication (fig. 8A; lines connecting nodes, signals propagate both clockwise and counter clockwise) and a second network unit (fig. 8A, node B) arranged for bi-directional optical communication; the first transceiver module is attached to the first receiving section and the first transmitter unit is connected to transmit optical signals to the first network unit (inherent) while the first receiver unit is connected to receive optical signals from the second network unit (inherent) , the first network unit is connected to the second network unit such that signals from the first network unit are transmitted to the second network unit without passing through the interface device and the switching unit (fig. 7, element 7) is set in the first state (fig. 8A; column 8, lines 13-41).

Regarding claim 13, as it is understood in view of the above 101 and 112 problems, the modified system of Yamashita and Karstensen differs from the claimed invention in that Yamashita and Karstensen do not specifically teach no second transceiver module is attached to the second receiving section. However, Yamashita further teaches the network unit can be operated with only first receiving section (fig. 8C, node A). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to operate the system without the second transceiver module is attached to the second receiving section whenever the second transceiver module is not necessary in order to save spare parts for the system.



7. Claims 8-10, and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. (U.S. Patent US RE37,401 E) in view of Karstensen et al. (U.S. Patent US 5,923,451) and further in view of the Admitted Prior Art figure 1 (APA).

Regarding claims 8-9, and 14-15, as they are understood in view of the above 101 and 112 problems, the modified system of Yamashita and Karstensen differs from the claimed invention in that Yamashita and Karstensen do not specifically teach that the network unit comprises a multiplexer/demultiplexer, and is connected to a large fiberoptic network, with which the second network unit may communicate via the multiplexer/demultiplexer. However, it is well known in the art to include a multiplexer/demultiplexer in a network unit and connect the network unit to a large fiber-optic network. For example, the APA discloses that a network unit (fig. 1, 10) comprises a multiplexer/demultiplexer (fig. 1, MUX/DEMUX 11) and is connected to a large network (fig. 1, network 14). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to include a multiplexer/demultiplexer, as it is taught by the APA, in the network unit of the modified system of Yamashita and Karstensen and connect the network unit to a large fiber-optic network in order to obtain access a provider in the large network.

Regarding claims 10 and 16, as it is understood in view of the above 101 and 112 problems, Yamashita further teaches that the second network unit can be a subscriber unit (column 1, lines 16-22) wherein the interface device together with the

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attached first and second transceiver modules adapt (process) the optical signals from the second network unit before transmitting the signals to the multiplexer/demultiplexer, and also adapt (process) signals from said multiplexer/demultiplexer before they are transmitted to the second network unit.

8. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. (U.S. Patent US RE37,401 E) Karstensen et al. (U.S. Patent US 5,923,451) and further in view of Kamiguchi et al. (U.S. Patent US 4,842,801).

Regarding claim 2, as it is understood in view of the above 112 problem, the modified system of Yamashita and Karstensen differs from the claimed invention in that Yamashita and Karstensen do not specifically teach that at least one control signal is derived by either sensing a logical voltage over a sense-resistor, which voltage indicates whether a transceiver module is attached to said second receiving section, or by sensing whether a driving current is consumed by a transceiver module attached to said second receiving section. However, Kamiguchi teaches a circuitry device to detect driving current (column 3, lines 58-62). Therefore, it would have been obvious for one of ordinary skill in the art at the time when the invention was made to apply the current detecting circuitry device as it is taught by Kamiguchi in the modified system of Yamashita and Karstensen and to detect if driving current is consumed by a transceiver module attached to said second receiving section in order to detect if the module is accidentally removed from a system.

***Response to Arguments***

9. Applicant's arguments with respect to claims 1-4, and 6-16 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Fassih-Nia et al. (U.S. Patent US 6,307,652 B1) teaches a fault tolerance optical communication apparatus using electrical switch interconnection (figs. 3 and 4). DeCusatis et al. (U.S. Patent US 6,359,713 B1) a system for optical open fiber control propagation. Alagar et al. (U.S. Patent Application Publication US 2003/0169470 A1) disclose an optical network system utilizing an interface device (fig. 8) with electrical switch interconnection.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quan-Zhen Wang whose telephone number is (571) 272-3114. The examiner can normally be reached on 9:00 AM - 5:00 PM, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

qzw  
6/2/05



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